

6. CONCLUSIONS AND RECOMMENDATIONS

Based upon the findings of the preliminary risk assessment and site walkover, a number of potential contaminant sources and pathways to potential receptors have been identified.

It would be a likely requirement of any planning conditions for the site to undertake a preliminary intrusive ground investigation to determine the presence or extent of any potential contamination within the groundwater and soil strata. Any investigation should comprise of a number of exploratory holes across the site and in-situ ground gas monitoring should be undertaken. Ground gas and/or groundwater monitoring installations should also be constructed on site so that the concentration of any hazardous gases can be quantified and any groundwater collected and analysed.

Should redevelopment of the site take place, it would be prudent to undertake a geotechnical investigation of the site to enable a suitable foundation solution to be designed. It would be prudent, where possible, to undertake this at the same time as the environmental investigations to minimise mobilisation and supervisory costs.

Any ground investigation should be designed in general accordance with CLR 4, (refs. **R.8** and **R.3**), undertaken in compliance with BS10175, (ref. **R.3**), and BS5930, (ref. **R.4**).

It is recommended that the presence of Japanese Knotweed is investigated during the intrusive works, by a specialist and qualified professional, who is able to identify the species in-situ to ensure the appropriate control measures are recommended, i.e. further identification and treatment.

Due to the potential contamination PPE is advised to be worn during any groundworks.

It is recommended that this report be submitted to the Local Authority as part of the planning submission for the site.

APPENDICES



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APPENDIX 1 - ACRONYMS AND ABBREVIATIONS

Acronym / Abbreviation	Definition
ACM	Asbestos containing material
ADE	Average daily exposure
ASPT	Average score per Taxon
BAP	Biodiversity Action Plan
BOD	Biochemical oxygen demand
BH	Borehole
BRE	Building Research Establishment
BS	British Standard
BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
CIRIA	Construction Industry Research and Information Association
CLEA	Contaminated Land Exposure Assessment
CLR	Contaminated Land Research reports
DEFRA	Department of the Environment, Food and Rural Affairs (formerly the DoE and DETR)
DETR	Department of the Environment, Transport and the Regions (formerly the DoE and now Defra)
DO	Dissolved oxygen
DoE	Department of the Environment (then DETR and later Defra)
DQRA	Detailed quantitative risk assessment (Tier 2)
EA	Environment Agency
EPH	Extractable petroleum hydrocarbons
EQI	Environmental Quality Index
EQS	Environmental Quality Standards
FRA	Flood Risk Assessment
GQRA	Generic quantitative risk assessment (Tier 1)
IPC	Integrated Pollution Control
IPPC	Integrated Pollution Prevention Control
m aOD	Metres above ordnance datum
mbgl	Metres below ground level
NGR	National grid reference
NHBC	National House Building Council
NRA	National Rivers Authority (now the Environment Agency)
PACM	Potentially asbestos containing material

APPENDIX 2 – REPORT LIMITATIONS AND CONDITIONS

This report refers, within the limitations stated, to the condition of the site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the site.

The comments given in this report, and the opinions expressed herein, are based upon the readily available information collated for the report and an assessment based upon the current UK guidance, primarily the Contaminated Land Research (CLR) Reports, and most importantly CLR Report 3 (ref. **R.7**).

This report has been prepared for the sole use of the Client for the purposes described and no extended duty of care to any third party is implied or offered. Third parties using any information contained within this report do so at their own risk.

This report is prepared and written for the use stated herein; it should not be used for any other purposes without reference to Geosphere Environmental Limited. The report has been prepared in relation to the proposed end-use should another end-use be intended a further re-assessment may be required. It is likely that over time practises will improve and the relevant guidance and legislation be amended or superseded, which may necessitate a re-assessment of the site.

The report is limited to those aspects of land contamination specifically reported on and is necessarily qualified accordingly, no liability shall be accepted for other aspects which may be the result of gradual or sudden pollution incidents, past or present unrecorded land uses both on~ and off~ site and the potential for associated contaminant migration. The opinions expressed cannot be absolute due to the limitations of time and resources imposed by the agreed brief.

The accuracy of any map extracts cannot be guaranteed. It is possible that different conditions existed on site, between and subsequent to the various map surveys appended.

Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes discussed or on the possible presence of features based on visual, verbal or published evidence, this is for guidance only and no liability can be accepted for its accuracy.

The conceptual model is based on the information available at the time of conducting this assessment and is an interpretative assessment of the conditions at the site. It should be noted that the redevelopment and/or further investigation of the site may reveal additional information and therefore alter the conceptual model and the conclusion of this report.

APPENDIX 3 – REFERENCES

- R.1.** The Environmental Protection Act, Part IIA, Section 78, 1990.
- R.2.** Environment Act 1995, Section 57, DoE 1995.
- R.3.** British Standards Institute: BS 10175 'Code of practice for the investigation of potentially contaminated sites', BSI 2011+A1:2013.
- R.4.** British Standards Institute: BS 5930 'Code of practice for ground investigations', 2015.
- R.5.** CLR 1, 'A framework for assessing the impact of contaminated land on groundwater and surface water', Report by Aspinwall & Co., DoE 1994.
- R.6.** CLR 2, 'Guidance on preliminary site inspection of contaminated land', Report by Applied Environmental, DoE 1994.
- R.7.** CLR 3, 'Documentary research on industrial sites', Report by RPS Consultants Ltd, DoE 1994.
- R.8.** CLR 4, 'Sampling strategies for contaminated land'. Report by The Centre for Research into the Built Environment, the Nottingham Trent University, DoE, 1994.
- R.9.** CLR 6, 'Prioritisation & categorisation procedure for sites which may be contaminated', Report by M J Carter Associates, DoE 1995.
- R.10.** CLR 8, 'Potential contaminants for the assessment of contaminated land'. Defra/EA, March 2002. (Withdrawn)
- R.11.** CLR 11, 'Model procedures for the management of contaminated land: Risk assessment procedure', DoE 2011.
- R.12.** Methods for the determination of hazardous substances (MDHS) "100 Surveying, sampling and assessment of asbestos-containing materials" HSE, July 2001.
- R.13.** National Radiological Protection Board, Report NRPB-R290, 1996, 'Radon Atlas of England'.
- R.14.** BRE Report 211, 'Radon, Guidance on the Protective Measures for New Buildings, 1999.

APPENDIX 4 – ENVIROCHECK DATA SEARCH REPORT

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

85034073_1_1

Customer Reference:

1748,DS

National Grid Reference:

523320, 224570

Slice:

A

Site Area (Ha):

1.84

Search Buffer (m):

1000

Site Details:

The Icon
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